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HYDRANGEA ROSEA

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JAMES VICK
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THERE IS at this time, both with amateur and market cultivators, a more general interest in the Grape than in other fruits, with, perhaps, the exception of the Strawberry, and during the last two months the opportunity has been afforded to learn something of the newer varieties by the various exhibitions, and by the reports made at horticultural meetings and through the press. Some of the facts in this relation it is here proposed to state. It should be borne in mind that location and soil greatly affect the quality and characteristics of varieties, and consequently the judgment of any person in regard to the nature of any particular sort, however well qualified, must be taken only as approximately true, or, rather, as true only for one locality.

In the report of the exhibits of the Ohio State Horticultural Society, it is said of the Brighton that it is a "large, handsome, well filled cluster of dark red, or Catawba color. Vine a strong, healthy grower, this season quite healthy. In quality very good. In extreme cold winters requires protection—but by pruning in autumn and laying down upon the ground with slight covering of earth, can be grown successfully quite far north, as it ripens as early as Concord. Valuable, and increasing in favor." This vine continues to show its defective character in regard to setting its fruit, and it is now

well determined that it cannot be depended upon. Like all varieties having reflexed stamens, it is liable to fail to pollenate unless all the conditions are remarkably favorable for it, as they seldom are. A party having a Brighton planted among some Concords secured good clusters every year, while in the same locality, same soil and exposure, not a quarter of a mile distant, a considerable number of vines of this variety planted in vineyard rows, yield nothing, year after year, but some scattering berries on the stems; with such results it is quite unprofitable. It is possible that in the future it may be shown that Brighton, planted alternately with Concord, or some other variety yielding an abundance of pollen, will set its fruit well, but at present this supposition is not fully confirmed.

The Diamond, which was produced by JACOB MOORE, the originator of the Brighton, is well spoken of after another year's trial. It is a strong growing, healthy vine, and produces abundantly; the clusters are medium to large size; berries large, white; pulp melting and of good quality. Ripens earlier than the Concord. A handsome and promising variety. SAMUEL MILLER says of it, "Moore's Diamond is one of the best white Grapes I have eaten."

The Dutchess, in locations exempt

from mildew, is proving to be a valuable market variety, but it is a little tender and requires to be laid down in the fall. It produces heavily of fine clusters of most excellent fruits.

Early Victor is a variety that is favorably mentioned, but which we have not had the good fortune as yet to see. It is reported by GEORGE W. CAMPBELL to be hardy, healthy and prolific; a few days later than Moore's Early. Clusters nearly as large, berries smaller, but of better flavor. From Sangamon County, Illinois, it is reported as having some rot.

El Dorado is a fruit of fine quality, but sets its fruit imperfectly, causing small, straggling bunches. Unworthy of attention, except by amateurs.

Empire State is well mentioned by some parties after the past season's trial, but we have not seen any fine samples of it this year, which, however, may be no fault of the fruit. We have, as yet, formed no opinion of the merits of this variety, and think it has not yet been sufficiently widely tested to enable one to arrive at a sound conclusion in regard to its value.

Jefferson. This variety has been before the public for several years, and has been widely advertised. It is a handsome red Grape, of excellent quality, ripening as late as the Catawba, or with us a little later, and consequently it is not available for general planting at the north. The wood is a little tender, and it should be laid down for the winter. In some southern and western localities it is reported to lose its foliage and do badly.

Jessica, this season, proved to be a very early and excellent Grape, very near to Delaware in quality, and earlier. Was well ripened on the 26th of August. Vine a good grower, foliage healthy, fruit about the size of the Delaware in bunch and berry. While we need more experience before we could advise this variety for market, we do not hesitate to say that it is quite desirable for the private garden. It has not yet been reported from many localities, and may prove unreliable in some places, as most other sorts have, and in such cases it is the locality and not the fruit that should be considered at fault. The Concord is the only variety that can be successfully cultivated over a wide area; it is healthy, painfully so.

Lady Washington is said, by Mr. CAMPBELL, to have "proven rather variable. In favorable seasons, like the present, it bears well, and when ripe is both handsome and good, though not high flavored. It is a very strong grower; bears large clusters of light pink-colored berries." We have seen some fine samples of the fruit, but are not prepared to express a decided opinion in regard to it.

The Lutie is a vine that originated in Kentucky, and has been considerably advertised at a high price through the South. It was described by the originator as the best and most valuable red Grape ever produced in this country. Professor T. V. MUNSON, of Texas, gives the public, through the press, his experience with it. He writes: "I got vines of Lutie when first offered for sale by the originator. These vines fruited in a small way this year, producing a large, pale berry, with a thick skin and tough pulp, and a quality of the most unbearable character, scarcely so good for eating as the ordinary Mustang." We have heard other reports of this variety to the same effect.

Moore's Early continues to give good results, and is valuable for its earliness, suiting the taste of all who are satisfied with the Concord, than which it is no better. GEORGE W. CAMPBELL says that, with him, "it has not been as vigorous in growth or as productive as Concord." This corresponds with our own experience, and will probably be found generally true.

Niagara is proving to be not wholly exempt from weaknesses, as its introducers claimed. It is subject to mildew and rot in those regions where other varieties suffer from these diseases. It does not root deeply, and its roots are sometimes injured by severe cold in winter when not protected. A friend of the writer, who went through the large Niagara vineyard of Mr. ROGERS, on the Hudson, the past summer, stated that the oldest part of it was not the best, and he observed that he should not be surprised if this variety should prove to be deficient in vigor and hardiness of root. In quality it is considered generally to be somewhat better than Concord, though a decidedly foxy Grape.

Pocklington, in this locality, has proved, this year, as for several years

previously, to be an exceedingly healthy vine and very productive. Clusters and berries both large, and handsome color when quite ripe, with a light amber shade; in quality it is superior to Niagara. From the various reports about this variety it is probably considerably affected by soil and situation, and its value for any particular locality must be proved by actual trial. Mr. CAMPBELL has this to say of it: "Judging from the past two years' experience, I think this Grape has been under-estimated, and I venture to predict that as a popular and profitable market Grape, except in a few Northern localities, it will grow in favor, as it becomes better known. Though often rather slow of growth while young, the vines are hardy and healthy, and the bunches and berries increase in size with the age of the vine, and it becomes one of the most productive, and the clusters the largest and handsomest of its class. No vines of any variety are bearing more handsomely this year than the Pocklington. A very important matter is, that the skin of the Pocklington is more tenacious than that of Concord, Lady, Worden, or any other of the Concord seedlings, thus enabling it to be handled and shipped without injury, and also to be kept without injury for a long time after gathering. When fully ripe, it is of a delicate yellow color, and though it has a considerably foxy odor, it is rich and pleasant flavored, and to most tastes a very acceptable Grape. To my taste it is certainly better than Concord."

Poughkeepsie Red. Favorable reports

are made of this variety for amateur culture. It is of the highest quality; undoubtedly will be sensitive to soil and site, but in localities where the Delaware succeeds well it is worthy of attention from those seeking the best fruit for home use.

Telegraph, or Christine. This is an early black Grape, of fair quality, bunches medium to small size of medium sized berries, thickly set, clinging well to the stem, and having good shipping qualities. Ripens about the same time as Worden. Vine a strong grower, healthy foliage, and quite productive.

Ulster promises to be a valuable market variety. It has healthy foliage, is a good grower, produces abundantly; the fruit ripens early, ships well, and is so good in quality as to quite satisfy most tastes, even those that are critical.

Vergennes is reported about in contradictory terms from different localities, and its exact standing is not yet settled. Appears to be affected by mildew and rot in some places.

Worden continues to increase in favor as it becomes well known. It has the healthy, strong constitution of the Concord, from which it is derived, is very productive, the fruit somewhat handsomer and better in quality than the parent, and about ten days earlier. For shipping it is no better than Concord, as its skin is so tender that the berries are liable to crack, and this characteristic makes it undesirable to raise for market when it is to be shipped a long distance. For family use it should be planted in preference to Concord.

NOVEMBER WORK.

A great variety of work can be done in the garden the present month. Trees, shrubs and hardy plants can be transplanted. Tender trees, like the Peach, Apricot and Nectarine, Magnolia, &c., and the Coniferous evergreens, should not be moved or transplanted; they can be moved with safety in spring, but not at this season.

Hyacinths, Tulips, Narcissus, Crocus, and all hardy bulbs can be planted during this month. A good covering of manure or litter is desirable over the bulb beds, but it should not be laid on until the time that very steady cold weather is about to set in, otherwise the bulbs advance too

rapidly, and are apt to start too early in spring, running the risk of injury by late frosts.

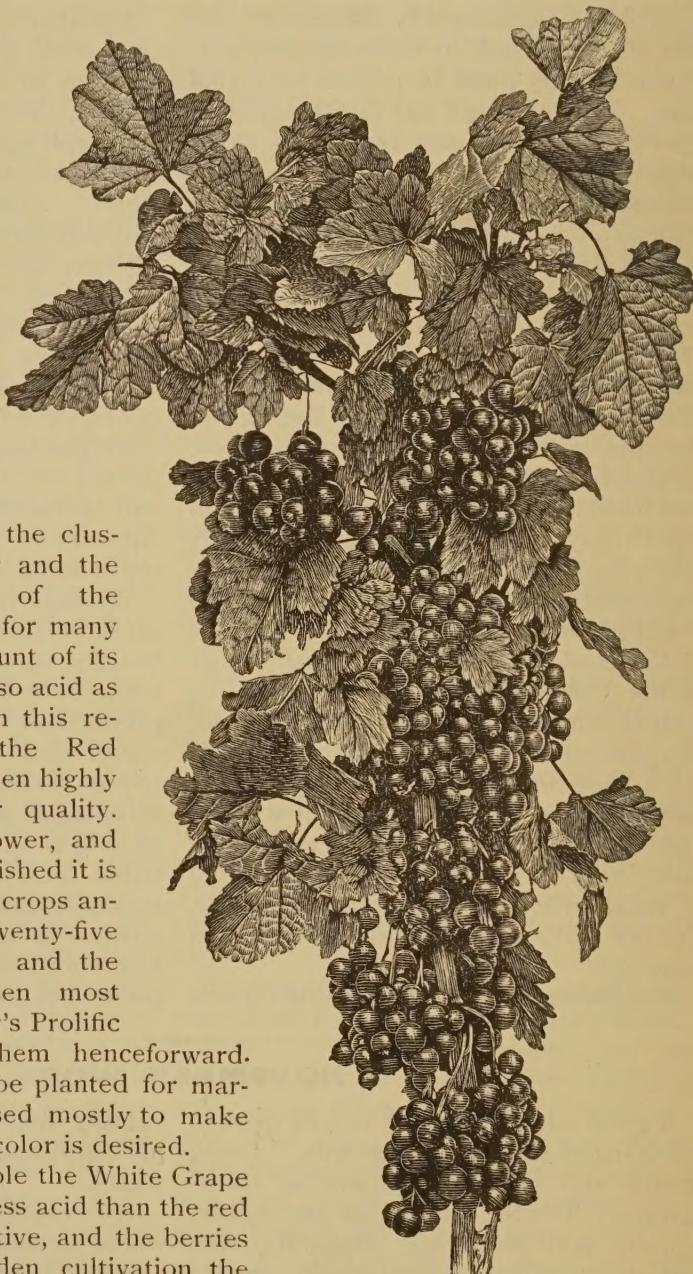
All vegetables that have not been taken in should now be housed or protected. Beets, Carrots, and other fleshy rooted vegetables keep best in the cellar when covered with soil or sand. Store away Celery where it can be reached as wanted for use, either in a trench or a Celery cellar. A quantity can be kept well when set in a deep narrow box in the cellar with soil packed about the roots. It should be lifted and taken to the cellar at once, and without freeing the plants entirely of adhering soil.

THE Currant.

This is one of the most valuable fruits for family use, and is raised in almost every garden. Like the Strawberry, it adapts itself to a great variety of soils, locations and climates. From the fact that the plants are easily propagated by cuttings, the attempt to raise it from seed has rarely been made, and on this account comparatively few varieties of it have been known. It is not at all improbable that the Currant, by judicious crossing of varieties and sowing seeds and selecting, can be greatly improved. The most recent instance of such improvement is Fay's Prolific, of which an illustration is here given, which has been prepared from a photograph presented by one of our readers.

The great yielding habit of this variety is here seen, and while the quantity produced is greater than that of other varieties, the clusters and berries are large, the clusters, in fact, being longer and the berries equaling those of the Cherry Currant, which has for many years been popular on account of its large size. It is not quite so acid as the Cherry Currant, and in this respect closely resembles the Red Dutch, which has always been highly esteemed for its superior quality. The plant is a vigorous grower, and if well cultivated and nourished it is capable of producing large crops annually. During the last twenty-five years the Cherry Currant and the Versaillaise have been most planted for market, but Fay's Prolific will probably supersede them henceforward. Only red Currants should be planted for market, as the fruit is purchased mostly to make into jelly, and a bright red color is desired.

For family use on the table the White Grape Currant is the best, being less acid than the red varieties; it is quite productive, and the berries are of good size. In garden cultivation the Currant is often greatly neglected, the plants being most usually set beside a fence and left with the least cultivation that can be given them. This is wrong, for no fruit more promptly responds to good cultivation. A dressing of old manure should be given the plants every year, which should be spaded in lightly. The soil should be hoed and kept mellow and clean. The same branches or shoots continue to bear fruit a number of years, consequently, after a time the plant, if left unpruned, sets more fruit than it can well support, and the result is a quantity of small berries. The plants should be pruned annually, the oldest wood being always removed, and a proper amount of bearing wood left.



FAY'S PROLIFIC Currant.

CORRESPONDENCE.

WINTER PRECAUTIONS.

Here, at the north, we must take especial pains to guard against the results of sudden "cold snaps" and penetrating winds which blow the cold through every little nook and crevice into the rooms where our flowers are. If these precautions are neglected we may wake up some morning when the thermometer registers away down in the minus twenties, or possibly the thirties, as was several times the case with us last winter, and find our pets frozen.

I would always advise having double sash at the windows where plants are kept. If this is done and the glass is well puttied in, there will be no need of moving them away at night, and it is entirely unnecessary to use a curtain of any sort as a protection against frost, as the two thicknesses of glass with the air space between them are an effectual barrier against the entrance of cold. Of course, care must be taken to see that the sash fits the frame snugly. There must be no loose, open joints. In order to make sure of a snug fit it is well to use strips of thin corner molding, which can be fitted into the angles between sash and frame and tacked so firmly into place as to fit closely against both, thus insuring a tight joint. The outside sash can be screwed to the window frame. Large, long screws will draw it down against the wood so firmly as to leave no crevice for the wind to get in. If the frame is uneven it is well to tack on a strip of thick cloth or felt all around where the storm-sash will come. The screws will hold the wood down on this so snugly that all uneven places will be effectually filled. Of course, windows having double sash are supposed to be proof against the entrance of air, but it does not necessarily follow from this that we are not to give the plants fresh air which are grown in them. For some years past I have admitted fresh air through small tin tubes. A tube an inch in diameter runs out through two pieces of sash at the bottom of the window,

through a hole bored to receive it. This tube has an elbow, like that of a stove-pipe. To this elbow a piece of tin pipe of the same size is fitted. This pipe runs up past the center of the window, and is open at the top. Thus I am able to admit a stream of fresh, pure air whenever it is desirable to do so. This stream flows in above the plants and not among them, therefore it is mixed at all times with the warm air in the room before it reaches them, and no injury is done the tenderest kinds, as might be the case if the cold air came directly in contact with them in its exit from the pipe. This pipe can be stopped up at the top at night. Take pains to see that the hole through which it passes in the sashes is made tight about the pipe by putting on soft putty and pressing it in firmly.

Often there will be cracks and crevices along the base-boards of a room. Be sure to have these stopped up. Paste strips of cloth over them, and cover with paper like that on the walls. If there is an opening along the floor between it and the base-boards, have a strip of the corner molding put down there and tacked firmly into the angle. It is the draughts near the floor which are most to be guarded against, as the lowest part of the room is always the coldest, and any cold that enters from outside adds to this, and often chills plants occupying a low position on a stand, while higher up the air is warm enough for safety. It is these draughts along the floor which persons should guard against, also, and in looking out for the welfare of your plants you are doing something which is conducive to your own health.

Doors opening into the room in which you keep flowers should have listing tacked about them in such a way as to close all crevices through which the wind can enter. A strong wind will blow more cold into a room in moderate weather than will be likely to penetrate in still nights when the thermometer is down to zero. Therefore look out for the crevices.

If your plants should freeze, as soon as you discover what has been done put them in a dark room, or the cellar, where the temperature is but little above freezing, and sprinkle thoroughly with cold water. In most cases, such plants as Geraniums, Abutilons, and the more hardy kinds, can be saved in this way, and often quite tender kinds will come out with but little injury. The frost

must be extracted gradually, and with application of as little heat as possible. Keep them away from the light and warmth for two or three days. If the tops should wilt you may feel sure that they cannot be saved, so cut them off at once. The roots may not be damaged to any great extent, and if they are not they will soon send up sprouts.

EBEN E. REXFORD.

PALMS AS ORNAMENTAL PLANTS.

As ornamental-leaved plants, the Palms have as yet been but little employed in this country. They are comparatively slow in propagation and growth, and for this reason are somewhat expensive. Their erect forms and unique leaves produce a bold and striking effect, which makes them admirable hall and room plants, as well



ARECA VERSCHAFFELTI.

as adding greatly to the appearance of the conservatory and greenhouse. These plants are also so suggestive of tropical scenery and of the products which they supply to commerce and the use of man, that on these accounts they have an added interest. With the exception of the Grasses there is no order of plants which yield so much to human sustenance and comfort as the Palm. Among the products are

sugar, starch, oil, wax, wine, resin, fruits and nuts. The young terminal leaf-buds of one species, the Cabbage Palm, are cooked and eaten as a vegetable. With Dates and Cocoanuts and Sago we are all familiar, but we have but a slight conception of the numberless articles these trees, of the different species, afford, and

to the scene ; nothing else near the cabin indicates cultivated land.

" At this sight the spirits of the traveller revive ; he collects his strength and is soon beneath the hospitable roof. His host offers him a sourish drink, with which he slakes his thirst ; it refreshes him. When he has taken some repose



CHAMÆROPS FORTUNEI.

perhaps their great usefulness can be better illustrated by the following extract from the writings of LOUIS FIGUIER than in any other way :

" Imagine a traveller passing through one of these countries, situated under a burning sky, where coolness and shade are so rare, and where habitations in which to take the repose so necessary to the traveller are only to be found at considerable distances. Panting and dispirited, the poor traveller at length perceives a hut surrounded by some trees, with straight erect stems, surmounted by an immense tuft of green leaves, some being upright, and the others pendent, giving an elegant and agreeable aspect

the Indian invites him to share his repast. He serves up various meats contained in a brown-looking vessel, smooth and glossy ; he serves also some wine of an extremely agreeable flavor. Towards the end of the repast his host offers him certain succulent comforts, and he is made to taste some excellent spirits. The astonished traveller asks who in the desert country furnishes him with all these things. ' My Cocoanut tree,' is the reply. ' The water I presented you on your arrival is drawn from the fruit before it is ripe, and some of the nuts which contain it weigh three or four pounds. This Almond, so delicate in flavor, is the fruit when ripe. This milk which you

find so agreeable is drawn from the nut. This Cabbage, whose flavor is so delicate, is the top of the Cocoanut; but we rarely regale ourselves with this delicacy, for the tree from which the Cabbage is cut dies soon after. This wine with which you are so satisfied is still furnished by the Cocoanut tree. In order to obtain it an incision is made into the *spathe* of the flowers; it flows from it in a white liquor, which is gathered in proper vessels, and we call it palm-wine; exposed to the sun it gets sour and turns to vinegar. By dis-

velops the nut is much preferable to tow for caulking ships, it does not rot in the water, and it swells in imbibing it; it makes excellent string, and all sorts of cable and cordage. Finally, the delicate oil that has seasoned many of our meats, and that which burns in my lamp, is expressed from the fresh kernel.'

"The stranger would listen with astonishment to the poor Indian who, having only his Cocoanut tree, had nearly every thing which was necessary for his existence. When the traveller was disposed



LIVISTONIA AUSTRALIS.

tillation we obtain this very good brandy which you have tasted. The sap has supplied the sugar with which these preserves are sweetened. These vessels and utensils have been made out of the shell of the nut. Nor is this all. This habitation itself I owe entirely to these invaluable trees; with their wood my cabin is constructed; their leaves, dried and plaited, form the roof; made into an umbrella they shelter me from the sun in my walks; the clothes which cover me are woven out of the filaments of their leaves. These mats, which serve so many useful purposes, proceed from them also. The sifter which you behold was found made to my hand in that part of the tree whence the leaves issue; with these same leaves woven together we can make sails for ships; the species of fiber that en-

to take his departure his host again addressed him: 'I am about to write to a friend I have in the city; may I ask you to charge yourself with my communication?' 'Yes; but will your Cocoanut tree still supply you with what you want?' 'Certainly,' said the Indian; 'with the saw-dust from severing the leaves I made this ink, and with the leaves this parchment. In former times it was used to record all public and memorable acts.' "

The young plants of many kinds of Palms are employed for their decorative effect, and some of these have been noticed and figured in former numbers of this MAGAZINE. At present three species are represented. Areca Verschaffelti has graceful, recurved, feathery fronds, and offers a striking contrast to those with fan-shaped leaves. One species of

Areca, A. Catechu, which grows in India and the Indian Archipelago, supplies the Betel nut Catechu, a substance with astringent properties used in tanning and dyeing, and to some extent in medicine. It grows to a height of thirty to fifty feet; its seeds are the Betel nuts, which are chewed by the natives of India for their intoxicating effects. *A. Verschaffelti* succeeds best with what is called warm house culture, preferring a moist atmosphere and a higher temperature than the ordinary greenhouse in winter; in summer, however, it is available for greenhouse decoration. It can be temporarily employed as a house plant. *Livistonia Australis* is another warm house subject.

Chamcerops Fortunei, or *Chusan Palm*, is a greenhouse or half-hardy Palm, and bears well house and window culture. The leaf is deeply split into segments and has a pleasing, graceful, partly recurved form. A light rich loam with a little leaf-mold, and all well drained is a proper soil. The following description by C. M. HOVEY, of Boston, is interesting:

"About fifteen years ago we received several small plants of this Palm from London, and two of them were kept for specimens. These have been grown in pots or tubs during the whole period, and the plants are now eight feet high, with a stem eight to ten inches in diameter. They have been grown out of doors every year, from April to November; kept under the stage of the greenhouse when small, but latterly in a cold house in winter. Two years ago one of these Palms produced a panicle of splendid yellow flowers, showing it to be a male

plant. Last spring (1874,) soon after they were put out of doors, in April, both of the plants began to show their flowers, which were watched with much interest, in the hope that one of them might be the female, as the flowers of the one were much smaller and less showy than those of the other. This proved to be the case. They stood within ten feet of each other, and without artificial fertilization the female plant produced three immense compound panicles of berries eighteen inches broad and seventy long, numbering, as near as we could estimate, 3,000. These were fully grown before the plants were removed to the house in November, and might have been gathered though they had not attained their beautiful deep blue color; but they were so very ornamental that we allowed them to remain until January, when they were cut off, as the berries began to fall.

"The plants have been allowed to stand in the open air long after every greenhouse plant was safely housed and all kinds of open air vegetation killed by heavy frosts, the thermometer falling as low as 22°, and this without the least browning of the leaves in the case of the Palm.

"In our climate, as a lawn plant, for vases, or for ornamental tubs, this Palm possesses the highest merit, for it can be placed out of doors a month earlier and kept out a month later than any other Palm, Agave, or tender Yucca—all good plants for such uses."

Chamcerops hystrix is the Blue Palmetto of Georgia and Florida, and this species also is cultivated as an ornamental plant.

AN OLD GARDENER.

STREET TREES.

Nothing adds more to the comforts and attractions of a town than street trees. Their value is almost universally conceded, yet it is only within a few years that organized efforts have been made to plant trees and improve the general appearance of towns. In many of the most progressive towns are village improvement societies that are doing great good, not only in planting trees and improving the surroundings of the homes, but are exerting by their work an educating power that is of great value. The work of improvement in town ways and pri-

vate grounds is contagious. Many are ready to improve their places if attention is called to the need of it, and if they can see an easy way of bringing it about. A fine row of trees in front of a neighbor's grounds is very likely to stir up those in the vicinity without trees to plant, and a town with streets lined with fine shade trees exerts an influence on surrounding towns in the direction of tree planting.

The Rock or Sugar Maple, *Acer saccharinum*, is one of the most popular trees at the present time for street planting; it is, like all Maples, free from in-

sect enemies, and does not draw the vitality from the soil for a great distance about it, as does the Elm; the limbs are inclined upward, away from carriages, and the autumn colorings are very gorgeous.

The American Elm, *Ulmus Americana*, is the ideal street tree in growth and habit, for it will grow rapidly in any good soil; pushes its branches above all surroundings, and forms a perfect arch over a street and allows sufficient sunlight to pass through to keep the streets free from gloom and dampness. If it was not for the exhausting power of the roots on all soil within a long distance and the ravages of the canker worm on the foliage it would be the perfect street tree.

We have many other trees as valuable as the Rock Maple that should be planted along our streets.

It is a mistake to plant only one variety, for it is quite possible that some disease or insect may attack it and destroy or seriously injure all the trees in a township. Frequently, in late years, the Rock Maple has been attacked by a disease similar to the pear blight; a limb covered with foliage will wither and die, and it is not rare to see a whole tree go in this way. If this trouble should become universal through some favoring causes, imagine the havoc that would be made in many towns; but if there was a large variety in the shade trees the destruction would be confined to the varieties affected.

The Norway, Scarlet and Silver-leaf Maples are valuable for street planting. The Norway is one of the few European trees that seems to be long lived in our climate; it has a rounder head and darker foliage than the Rock Maple, and retains its leaves later in the season, but they lack the brilliant autumn coloring. They turn a nearly uniform yellow.

The Scarlet and Silver Maples are especially well suited for wet grounds, and the last variety is very rapid growing and graceful, with long drooping branches, but the wood is soft and the limbs are broken in high winds, but the tree soon outgrows these injuries.

The English Linden, or Lime, was once largely planted, but it is rare now to find a perfect row of large trees, for they are so infested with borers that often a large tree will fall to the ground, the trunk being completely riddled with holes.

The American Linden, *Tilia Americana*, although somewhat coarser than the European species, is not injured by borers, and it is a rapid growing and symmetrical tree.

The White Ash, *Fraxinus Americana*, is another very rapid growing tree for street planting in all soils, the outline of the tree at maturity is broadly oval or round. It makes a large tree and colors in a very striking and peculiar manner in the autumn. The leaves on the inside of the tree are a bright yellow and those on the outside deep purple or reddish brown.

The Red, Green and Black Ash are sometimes grown and offered as the White Ash, but should never be planted for street trees, as they are much inferior to the last variety. When young they are vigorous growers, but they never make large trees, and are short lived.

The Oaks, Hickories, *Magnolia acuminata* and Tulip Tree should be occasionally planted for variety. The Red Oak is as rapid growing as the Maple when well established in good soil, and all the varieties named make noble trees for street or park. They are all difficult to transplant, and on this account not well suited for general street planting.

The Three Thorn Acacia is a rapid growing and handsome tree on dry soils, and makes a large tree, but is objectionable on account of its numerous long seed-pods that cover the ground in autumn. The Chestnut and Horse Chestnut, Black Walnut and Butternut have large and numerous fruits, making them rather undesirable for street planting.

The Western Catalpa, *Catalpa speciosa*, is a fine tree, with large and handsome foliage and very showy trusses of flowers, larger and finer than those of the Horse Chestnut.

There is a great variety in our native Birches, and we have several that would make charming street trees. The Canoe Birch, *Betula papyracea*, with its pure white bark, Sweet or Black Birch, *Betula lenta*, with smooth and dark colored bark, Yellow Birch, *Betula lutea*, with silvery gray bark hanging in flakes from the trunk, and the Red or River Birch, *Betula nigra*, a very graceful tree with greenish brown bark, are all large trees, and would make charming shade trees for the street.

There are many horticultural varieties that should be used to make striking contrasts in color and form of foliage. The Purple and Cut-leaved forms of the Norway Maple make large trees, and are nearly as rapid growing as the type. The Purple and variegated Sycamore Maple, and Purple and Cut-leaf Beech should be planted. The Golden Poplar is very rapid growing, has a bright yellow foliage and is very effective among other trees. Very pretty effects could be made by the judicious planting of a few trees of these varieties in prominent places along the roadways.

In planting street trees make sure of success by properly preparing the soil where they are to stand. If the soil is good, all that is necessary is to dig a hole a foot or more outside the longest roots. In planting the tree, place the roots naturally as deep, or a little deeper than they were when dug. Force the soil among them firmly, leaving no open spaces among the roots.

In all gravelly and poor soil dig a hole six to ten feet across and two to three feet deep, it cannot be too large, remove the poor soil and replace with good, in which to plant the tree; in very poor soil this must be done to insure success.

In selecting trees buy only those that are nursery grown, trees with good strong growth that have been transplanted inside of three years. A large tree can be moved as safely as a small one if it has been frequently transplanted.

As a rule, never buy trees dug in the fields and woods, no matter how cheap they are offered. Good nursery grown trees are always cheaper in the end, for they always have an abundant supply of those fine fibrous feeding roots that are so necessary for the tree's welfare.

After the trees are dug use the greatest care not to allow the roots to become dry. The feeding roots are easily destroyed by exposure, and their loss deprives the tree of much of its power to withstand removal successfully.

WARREN H. MANNING.

PERENNIAL FLOWERING PLANTS.

These lines are not designed for those who have cultivated flowers for years, and are well acquainted with the different varieties and their culture, but for people whose time and means are limited, and who admire flowers and often wish they might have a few of their own, but not having given the subject much thought, I suppose they cannot devote the necessary time to their cultivation. If they knew how easily some of them might be grown, they would surely have them to brighten their homes, and, I trust, in bringing to their notice some of the best kinds for this purpose, they may be induced to put out a few now for next year, for I am certain they will never do without them afterward, and the slight labor will be rewarded ten fold.

Perennials are the easiest class of plants for culture by the amateur. There is a much greater return for labor and money expended than in any other, and once started they will go on blooming for years, if only given a slight protection through the winter, and good rich soil in which to grow. Autumn is the best time to set out many varieties, and getting good strong roots is much more reliable

than sowing seed, as they will be firmly established before winter, and ready to commence growing early in the spring.

The Day Lily is one of the choicest perennials, and may be put in a circular bed by itself, where it will increase rapidly until it is a mass of luxuriant foliage, or it may be used as an edging for beds with showy plants and bright flowers. The broad leaves are very pretty all through the season, and are useful for bouquet making where much green is required; and there is also a variety which has variegated leaves, and others which have lavender or blue flowers, so all tastes may be suited. These plants delight in a cool, moist situation, partially shaded.

Perennial Phlox is valuable where many flowers with little labor are desired. It blooms through July and August, and often continues later. It is an old favorite, but there have been so many different colors and shades added to the list that there is now a number from which to select, pure white, rosy white, lavender, bright crimson, etc. They grow about two feet in height, and are covered with immense clusters of flowers.

Lychnis makes a brilliant display, with its masses of scarlet, white, or rose-colored flowers, all of which are very beautiful. Any common garden soil well enriched will suit it, and it may be kept in bloom for a long time by not allowing the flower stalks to wither and produce seed.

The Sweet William may be had in such a variety of colors, and many so prettily marked, and is so fragrant that it should be found in every collection.

The Perennial Pea is very hardy, and will often grow ten feet or more, and may be trained over a frame or will climb with its tiny tendrils wherever desired, if only furnished support. There are three colors, pink, white and purple. The flower clusters are very large and full, and make beautiful bouquets with the addition of a few Geranium leaves.

The herbaceous Pæonies are very desirable and very showy. We have a rose-color variety, very fragrant, which is loaded with blossoms every spring, and

which is greatly admired. There are rose, pink and white, with many variations of the same. The fringed varieties are especially beautiful. These want a dry place where no water can stand near the roots, and to be well covered in winter, as they are injured by continual freezing and thawing.

The Aquilegias bloom just after the spring bulbs are through and there is a lack of flowers, and then bright colored bells are very welcome.

I cannot finish without mentioning the Daisy and Violet, those old time favorites. The Daisy is content with little, only wanting a cool, shady place. The sweet-scented Violets, both purple and white, bring the earliest spring greetings. On a warm, sunny day, when you least expect it, you will find the Violet covered with white blossoms, like the Snowflake, which have just disappeared, and filling the air with wild perfume.

EVALYN.

ORANGE GROVES IN SOUTHERN CALIFORNIA.

Since the fairs in Chicago, Boston and New York have made the people of the Eastern States more acquainted with the Citrus productions of the far West, it may not be out of place to send a few lines to the readers of the MAGAZINE and tell them something about Citrus growing as it is practiced at present here.

In comparison to the extent of Southern California, the localities suited to the growth of the Orange, Lemon and Lime are very limited. I mean by this that the places where the Orange can be brought to perfection, without codling, wrapping, &c., are few and limited in extent; even in the farfamed Riverside there are many groves on the lower ground where they get an occasional freeze, and where, in their young stage, the trees have to be wrapped and covered each winter, and in the valleys nearer the coast, Los Angeles, for instance, they get so many fogs that the fruit is more or less spotted with fungoid growth, which materially affects their keeping qualities and sale, so that, really speaking, there is only the Mesa lands, near the interior foothills, where the Orange, Lemon and Lime will flourish summer and winter, where the fruit is brought to its highest perfection, and

where, year by year, the grove yields a good income to the grower. But given a good location, planted to good budded fruit, there is no tree planted that will yield such an income as the Orange.

The planting is done from February to June. Seedling plants cost from forty to sixty cents each; budded trees from seventy-five cents to one dollar each. They are planted all the way from eighteen feet apart to thirty feet, and the estimate of last season's planting in the three Counties, viz., San Diego, San Bernardino and Los Angeles, was 1,000 acres, or nearly 100,000 trees, and these are almost exclusively Washington Navel.

The out-put of last season was about 153,000 boxes, or somewhat over 35,000,000 Oranges, and Riverside alone netted \$300,000 for their crop. An Orange orchard, if it is well attended to and properly cared for, will begin to pay about the fifth year from planting. I use that word "if" advisedly, for I saw an Orange-grove, last week, that had been planted four years, but the trees had been so badly pruned and managed that it will take three more years before it will yield sufficient to cover expenses. That is the greatest trouble out here; every one thinks he knows how to handle his trees,

and lets them either grow at random for a year or two and then goes in with a saw and takes great limbs out, or else trims them up to a little head and leaves a long tender stem exposed to the full blaze of the sun.

Since the Chicago fair every one has gone cracked on budded fruit, and they have cut down their big bearing seedlings, no matter how good the quality, and budded them to Navel. One grove at Riverside, sixteen or seventeen years old, and about twenty feet high, has been treated in this way, whereas, a sensible neighbor of mine, who has about an acre of sixteen-year-old seedlings, netted, two two years ago, \$1,200 from them, and by present indications will do the same this year.

The Lemon is harder to cultivate than the Orange, and the crop is more expensive to handle. The owner of a Lemon grove must have a cool curing house, if he would make anything out of his crop, because the Lemon should be picked before it is ripe, and placed in bins in a cool room to cure. When picked the skin is thick and the fruit not very juicy, but when properly cured it comes out with a thin skin and an abundance of juice, and such fruit always find a ready market at

a good paying price, but the California growers are only just beginning to find this out.

There are few localities where the Lime does not get frozen. I know several places in Riverside where they had planted them and had to discard them, as they were cut down every winter, but up here they do splendidly. A friend of mine, who lives about a mile away, has one large shrub which is loaded every year. I saw it last year when at its best, and it had bushels on. Mr. Cook, my friend, told me he could go every morning and pick a bucket full. I had many a pleasant drink from them. Mr. Cook never puts them on the market, as they require the same care as the Lemon in handling, curing, &c.

Bearing groves sell all the way from \$600 to \$1,000 an acre, and when one considers the first cost of land and planting and the after care and waiting, I don't think this price out of the way, and if the orchard has been properly planted and had proper care, the buyer has the best of the bargain, and will get a good and increasing interest on his outlay, for with proper care an Orange or Lemon grove will yield all the way from \$500 to \$750 an acre per year.

W. H. W.

JAMES VICK STRAWBERRY.

The very unfavorable reports given by some of this berry, seemed at times to almost cast reflections of discredit on its originator and god-father both. Now, let both sides be represented, and not let a good thing be thrown overboard because a few speak disparagingly of it.

I have one letter from a reliable source in Kansas, where one man had nine acres of Strawberries, six of Crescent and Charles Downing and three of James Vick; that he realized more from the three acres of Vick than from the six of the other two sorts.

Another man had three acres, two of Crescent and one of Vick, and the latter produced more fruit than the former and berries larger. Others of a similar tone came to me. As to my own experience here, I can say that it is as good as any as a cropper, and in a season like this, when most varieties go under, it has passed through the heat and drought among the best. I believe that it should

be planted three feet by eighteen inches, and when in bloom half the blossoms clipped off, when there would be such a crop of Strawberries as has been seldom here seen.

That the time will come when children will be employed with scissors to clip off the smaller blossoms of Strawberry trusses, I have not the least doubt, for I have practiced it just enough to know that wages can be made at it. The difference in picking and the price of fruit will go far toward paying for the clipping.

Such varieties as Crescent and James Vick set about double the number of berries that they should carry, and if one-half were taken off while in blossom, or as soon as the fruit was set, the balance when ripe will measure and weigh just as much as if all had been left on, while the picking will be only half the trouble. That is the only way these monster berries are produced. I have grown the James Vick to measure five inches

around, and that is a big berry. The fact is, the thinning out of fruit to bring about the best results is not half practiced yet. S. MILLER, *Bluffton, Mo.*

THE ITALIAN BUGLOSS.

The Italian Bugloss, *Anchusa Italica*, is a very pretty hardy herbaceous perennial plant, belonging to the natural order *Borraginaceæ*. It is a native of the south of Europe, and was introduced into cultivation as early as 1597. It is suitable only for large mixed borders, on account of its rather coarse appearance, but a grand point in its favor is that it will grow and flower in shade equally as well as when given the most favored situation one has at command. It grows about two feet in height, and in appearance is rather bristly; it has linear lanceolate, dark green leaves, and produces its intensely bright blue flowers in panicled racemes during the summer months, in the greatest profusion.

It is easily grown and will live and do well where most other plants would perish; notwithstanding this fact, one should bestow a reasonable amount of care and attention upon it, and wherever grown it

should, if possible, be given a deep, moderately enriched soil, and every fall the plants should be given a good dressing of well decayed manure, and this should be carefully forked in early in the spring. In order to obtain the plants the seed should be sown in a cold-frame at any time during the month of April, and as the young plants are strong enough to handle they should be transplanted on a nicely prepared border, in rows six or eight inches apart each way. During the summer keep the young plants well cultivated and free from weeds, and early in October remove them to the place where it is intended they should bloom.

I have at one time or the other received numerous inquiries for plants that would be likely to produce fair results in partially shaded situations, and have here availed myself of the opportunity to call attention to one of the most desirable for that purpose. CHAS. E. PARNELL.

SULPHIDE OF POTASSIUM FOR MILDEW.

It may be useful to know my experience with sulphide of potassium. In a cold grapeviny, through neglect, on a very hot day in August, and not sufficient air having been given, I attribute the cause of mildew which I found gaining rapid headway when I went into the house a day or two afterwards. My first thought I cannot describe, for the vines were set with an abundant crop of fruit. A decision to stop the ravages at once was quickly formed, as the use of sulphide of potassium occurred to me. Therefore, at six o'clock next morning I went into the viney with a pound of the sul-

phide. I put a quarter of an ounce into two gallons of water, and commenced to syringe the vines. As soon as I had gone all over them with the solution, I commenced to wash the foliage with clear water by turning it on through the hose, in order to be secure against any evil that might occur from too great strength. I repeated this two mornings more. The Grapes at the time were three parts colored, and to-day they are in perfect condition. I may say that sulphide of potassium is the quick dispatcher of mildew, and the friend of the gardener.

JOHN HUNTER, *Tivoli, N. Y.*

A CLOSED GENTIAN.

I found, to-day, a Gentian closed—'twas of the kind which never opens—
And plucking it, I thought, Ah, me! how like our human hopes;
Budding, it gives such promise sweet of beauty fair to see,
Which ne'er, to our imperfect gaze, reaches maturity.
Thus do our hopes unfruitful seem—to His ways we are blind;
And yet their mission is performed, just as the Lord designed.

L. N. CUSHMAN, *Ansonia, Conn.*



FOREIGN NOTES.

CULTURE OF PRIMULA SINENSIS.

Most gardeners have a good show of Primulas during four months of the year, but a display may be maintained for fully seven months, as was the case with us last year. First as to seed sowing. Many persons fail to get a sufficient number of the seeds to germinate. They labor under the mistaken idea that the seeds require to be sown in a very fine soil, if not sand itself, and very often, I believe, Primula seeds are condemned as being bad while the fault might be traced to the above system of sowing.

The mode of treatment I have found most suitable is to prepare a small quantity of moderately fine loam and leaf-mold in about equal parts, with just sufficient sand to keep the whole porous. Two or three six-inch pots are cleaned and half filled with crocks; on these is placed a little rough soil or fiber, and the pots are then filled with the compost prepared in the usual way. Sow the seeds and lightly cover them, but do not add sand to the surface of the soil, as it is this which causes it to set close, and often a green scum will form, which in some degree prevents germination. We sow early in March and again by the end of April. From the first batch we have plenty in succession from the first week in October till the end of January; from the last we get a good succession till the end of April or May.

As soon as the seedlings are large enough to handle they should be pricked off into six-inch pots or small pans with good drainage. The latter is a very important point in all stages of growth. The Primula dislikes a close compost, and will never thrive in such; therefore good drainage and a rather rough soil should be strictly adhered to. Where Primulas "damp off" it may generally be traced to the stagnant moisture in the soil. After the young seedlings have been pricked off, as advised, return them to a stove temperature and slightly shaded, and very soon all will be growing again. In about a fortnight the seedlings are ready for another shift. My treatment

from this stage onward is somewhat different from the ordinary course of procedure; for instead of giving them small thumb pots we again prepare boxes or pans—either are suitable. We then plant them in the boxes two inches apart, when each box will contain from thirty to fifty plants, according to the size, and after being supplied with tepid water an early viney is a very suitable place for them until they are started, when they should be gradually hardened to a greenhouse temperature.

My reasons for placing the seedlings in boxes instead of using thumb pots are two. The first is, when Primulas are placed in such small pots we are compelled to use what the Primula dislikes—namely, very fine soil, and it is also difficult to keep them all in a moist and genial condition, and under the strictest attention there is generally a third of them dry, while the remainder are wet and often struggling between life and death; and it is in this stage when Primulas are lost by scores, or if not lost they receive a severe check, from which at the best they only partially recover. But when planted in boxes as advised they are much easier kept moist, and will make plants twice the size of others that are started in thumb pots.

After the plants have filled the space allotted to them in the boxes they will require potting in large 6's or small 4's, and in three or four weeks later they will be ready for their second or largest pots, which should not be less than five or six inches in diameter. After this potting cold-frames are the most suitable structures, where they are at hand. Slight shading from very bright sun is very beneficial, and a light dewing overhead with the syringe every evening after bright days will be found to suit them. During August a few flowering spikes will be pushing up, and these may with much advantage to the plants be removed as they appear until the middle of September, after which it is neither necessary nor of any advantage to remove flowers; and by October the cultivator will be re-

warded by fine sturdy plants worthy of the name, and these will continue flowering until the end of January or beginning of February.

I must now notice our second plants, as it is from these we get our supply through March and April. These are treated in every way the same as the first until the middle of September, when they should be placed in pots of various sizes, but not less than seven and eight inches in diameter, according to the strength of the plants, and it is very important to bear in mind that this last potting should be done just at the right time, or any delay is sure to be the cause of disappointment. There is a very general custom of removing all flowers as a means of retarding the flowering period; but this is a mistaken impression, and instead of retarding or checking the flowers it is certainly shortening the season by the succession of bloom spikes coming much sooner than they would otherwise have done where the first flowers were allowed to develop. The only means of checking the early flowering of Primulas is to repot them as advised directly the pots are filled with roots. They will then continue growing instead of sending up flowers. This is the secret of having late Primulas in first-rate condition, for if once they are allowed to become root-bound up come their flowers. A small quantity of soot added to the soil is very beneficial.

A. WATERS, in *Journal of Horticulture.*

HARDY PLANT CUTTINGS.

A common cause of failure in striking hardy plant cuttings is excessive moisture in different forms, and especially from the soil being made too wet. It is scarcely possible to lay down a general rule, for some cuttings root more readily in very moist earth, whilst others, such as the Crucifers, make quicker progress if it is kept somewhat dry. The black decay which sets in on the stems and in patches, often just on a line with the surface of the soil and frequently higher up, is what many of us find most trying, for it often occurs when there are healthy calluses and roots forming. If the parts are examined before any of the leaves are disturbed, in nine cases out of ten it will be found something has been touching the part, and causing particles of water to lodge there. Many simple causes exist,

such as we are apt to overlook, which quickly and effectually rot the soft material, which from its abnormal condition is very susceptible to injury. For instance, cuttings with down or hairs on the stems, if put close to the pot's sides above the surface, are pretty sure to rot at the point of contact; those of *Onosma tauricum* and *Salvias* and such like will not endure moisture so held, and black spots of decay will occur all the time a good callus is forming. I like to fix such cuttings with their heels touching the pot's sides, keeping them erect, so that at the surface they are half an inch or more from the side, and it is safer not to put too many in one pot. Making the soil firm in some degree is a preventive against the retention of too much moisture, but if the compost is gritty the tender skin of the cuttings is liable to be bruised, which may cause their death. It should be the aim to get cuttings rooted quickly, and those which are inserted in pots ought not by any means to have their pots plunged. Sunshine is our best friend in this matter if we utilize it. Cuttings which have stood in the sun have always the best roots on the sunny side; of course, I do not mean to say that cuttings should be inserted and placed at once in the hot sunshine, but after a day or two those of hardy and sun-loving plants may be set there, and the result will be better than if they were coddled up in cool and shady places.

J. W., in *The Garden.*

HOW TO PRESS FLOWERS.

A writer in *Gardening Illustrated* uses cotton-batting instead of bibulous paper in which to place fresh flowers for pressing. "I have had," he says, "much experience in flower drying, and I never found any kind of paper answer, however carefully used, and for the following reasons: First, the paper—of any kind—is, however lightly pressed, too hard a substance to touch the delicate bloom or surface of the petals of any flower, and at once injures the tender skin, causing the liquid to exude and saturate the leaf, which tends to decay it, as well as to injure or destroy the color. Secondly, paper does not absorb the natural moisture rapidly enough, but remains damp about the flower, thus allowing the air to pass through, while damp air injures both

color and leaf. I have tried a great many different ways, and one only has proved really successful—viz., the use of cotton wool. I take a small folio, in which I have folds of newspapers, four sheets thick. Between each of these folds I place two sheets of soft, fine, clear white cotton wool. I have this out with me, and as I gather the flowers I want to press, I lay them out carefully between the sheets of cotton wool, filling the sheet up as quickly as possible. I close it up in the newspaper, carefully turning it up all round the edges. When I get home I take the packets out of the folio, and place them in large books, under good pressure, and leave them as long as I deem necessary. Some flowers need a much longer time—those of a fleshy nature, for instance. The great secret is not to allow the air to touch them (by no means look at them to see how they are getting on) until they are quite dry. I have scarlet Geraniums, Violas, &c., which have been done more than two years, as fresh in color as at first, although in constant use on candle shades."

BEGONIAS FROM SEED.

The time of sowing will depend upon the convenience for raising the seed. If there is warmth at command, the middle of February is not too soon, as the young plants then get a long season of growth; indeed, many of them will bloom the first year. The seed requires a temperature of 60° to bring it up, and when the young plants are large enough to handle, they should be pricked off into pans, and thence into small pots. If they are hardened off and planted out they will make good tubers by the end of autumn, and taken up, dried, and stored in dry sand, they will make a good show the following year. One year old tubers are necessary to a good display. The following year, early in April, the tubers should be planted in light soil, in a cold-frame, only giving water now and then till they are in full growth. They should not be coddled, but be allowed to come on with plenty of air, hardening them so that they can be lifted with balls of soil, and be put into position by the end of the first week in June. The great mistake made is in using plants that have been raised in, or started in, heat for bedding; they seldom do well, generally getting crip-

pled by a spell of cold weather in June. It is also better not to pot them, but to treat them as above mentioned, as they then make a greater amount of roots. If no heat is at command, sow in May, and prick the young plants out in pans and boxes when large enough. In these they may remain for the season, as they will not be large enough to flower till the following year.

J. CORNHILL, in *Gardening Illustrated*.

PUFF-BALLS.

"J. J." writes to say that some of the white fungi known as Puff-balls are very nice when peeled, cut into slices, and fried; but it is unsafe to eat any Puff-ball, except the so-called "Giant"—*Lycoperdon giganteum*. When this is young, and perfectly white inside and out, it is good eating when cut in slices and fried with butter. Several smaller Puff-balls are white inside when young. We have quite recently heard of case which very nearly ended fatally, and which caused intense suffering for several days. The mischief was brought about by eating raw a very small portion of the white substance of one of the smaller Puff-balls. In regard to fungi, as to all other objects of food, it is necessary to know what the things really are before eating them.

W. G. S., in *Gardening Illustrated*.

A SWEET POSY.

Take two Moss Rose buds half open, a spray of Rosemary, and half a dozen of the flower heads of Lavender, to which add a cluster or two of Mignonette, three old Clove Carnations, a small bunch of white Jasmine, and a few leaves of the sweet-scented Verbena (*Aloysia citrodora*.) If to the above you add a half opened old Provence or Cabbage Rose so much the better, and the result will be a sweet posy that a duchess might like to have near her, and which, if tastefully put together, will delight the eyes as well as the nose. This sort of sweet posy was far more common in the days of our great grandmothers than now. You will notice how careful the late R. CALDECOTT was to give his sweetest of early eighteenth century maids a dainty little posy to sniff at as they cross their tiny feet and sit demurely in the fine old Chippendale chairs he must have liked, or he would not have drawn them so well.

Well made *pot pourri* is delicious in winter, but during summer time every room in every house which has a garden ought to be full of fresh flower fragrance, leaving the mummied odors for the winter of our discontent. You must not for a moment fancy that the above recipe for a sweet posy is a bit of literary labor out of my own head, so to say. The truth is, I found it written inside the cover of an old herbal, and to-day I tested its efficiency, and having found it not wanting, I offer it to every Lady Corisande who reads *The Garden*.

JAMES COOMBES, in *The Garden*.

MASSING HARDY BULBS.

Snowdrops and common trumpet Daffodils are only seen to advantage in large bold clusters against a background of trees and shrubs. A large mass of the blue-flowered Squill (*Scilla Sibirica*) in March makes a deep impression, though inferior in effect to that of the acres of Bluebells which I have seen in woods in Norfolk and elsewhere in June. Large clumps of white Lilies (*L. candidum*) springing out of a base of a greenery against a background of large-leaved shrubs (Rhododendrons, for instance) never fail to attract attention. The Alstroemerias when left undisturbed for years and allowed space for development form an interesting group that can scarcely become too large. Grandeur and importance are imparted by gathering things into masses. The Wood Anemone, one of the prettiest of British shade-loving plants, is always interesting, but plant a partially shaded bank with it and the effect is very striking. Lily of the Valley and the hardy Cyclamens, however beautiful they may be in isolated clusters in the border or on the rockery, are more effective when gath-

ered into groups in sheltered recesses. The season for bulb planting is at hand, and those who intend to plant should purchase their bulbs and thoroughly prepare the site for them. Leaf-mold is always an excellent dressing to work into the soil where bulbs are to be planted. Daffodils of the common types if planted thinly will annually form new bulbs, and soon become a mass. The same thing happens in the case of Snowdrops and other things which I have named.

E. HORDAY, in *The Garden*.

CUTTINGS OR SLIPS.

When I was a boy nearly everything was increased from slips, and I am not sure that the more modern and now general practice of taking cuttings is more successful than the old plan of slipping off short axillary roots with a heel instead of cutting them with a knife. If ever I feel the least doubtful as to which method is best, I try both ways, and after some little experience in this line, I find the balance in favor of the slips. Milky plants, such as *Euphorbia jacquinæflora*, often fail as cuttings, but short growths stripped off grow well. Pinks, Carnations, Cloves, and mule Pinks, *Onosma tauricum*, small Veronicas, &c., we propagated quite successfully from slips under cap-glasses or handlights on a sandy border. Hollow-stalked Pansy cuttings generally fail to grow, but the same growths slipped off at the crown and inserted deeply in sandy soil grow quite freely. Of course, facilities for the rooting of cuttings are now greatly improved, yet for hardy plants more especially I believe we might return to the old fashioned habit of planting slips of many things with advantage, and especially when cuttings have been tried and failed. JAMES COOMBES, in *The Garden*.



PLEASANT GOSSIP.

SMOKE TREE-ROSES.

We have in our lawn a fine large bush of *Rhus Cotinus*, or Smoke Tree. It has been growing finely for about six years, has good soil and a sunny situation. Every season it blossoms abundantly, but that is all. The mist which should follow the blossoms never comes, we have watched for it every year, but are always disappointed. Can you tell me the cause of it? We used to think it might be rose-bugs that injured the blossoms, but this year there has been very few bugs, and these we picked off, so that is not the cause. Are there two varieties?

Then we have a fine Hybrid Perpetual Rose bush, *Magna Charta*; every year it is full of fine large buds, but nearly all of them refuse to open properly. Many of the buds drop off without opening at all. One year we made the soil very rich, but it was still the same; the next year we tried starving the plant, but with no better success, so we now appeal to you, hoping that, through the columns of your MAGAZINE, we will receive some information in regard to the management of these two unruly plants.

MRS. S. C., Philadelphia, Pa.

The Smoke Tree here described is peculiar in the fact that its pedicels are not hairy. It is probably a seedling plant and varies in this particular from most of its kind. With this view of the case nothing can be done to cause it to take the desired form. It can be dug up and another be put in its place.

The Rose is a great feeder, and it must have a plentiful supply of nutriment within easy reach in order to show best what it can do. Take some turf from a pasture lot and cut it up into small pieces with a spade, and mix with it an equal bulk of old cow manure, such as can be collected in a cattle pasture. Now, if to this is added a quantity of broken bones, a compost will be formed which the roots of the Rose will revel in. The plant can be removed from the ground and a bed, from three to five feet in diameter, prepared for it with this mixture, and then be replanted in it; or, a trench about eighteen inches away from the bush can be cut all around it, cutting off the side roots—the roots underneath should also be cut by digging away below the surrounding ball of earth. When this has been done, fill in the compost material, and give a good watering. The present month is a good time to do this work. Numerous new fibrous roots will form

this fall and be ready in the spring to supply the plant with rich sap. It will then open its buds satisfactorily.

STRAWBERRIES-HOLLYHOCKS.

I have a box of Strawberry plants which have been raised from seeds that I planted last June. Can you inform me how to manage with them this fall and winter?

I have some white Hollyhocks from seed which I planted two years ago this fall; they have blossomed all summer. They were double seeds, but, to my surprise, the flowers are single.

L. R. H., South Natick, Mass.

Take the box of Strawberry plants to a sheltered spot in the garden, remove the bottom from it carefully, so as not to disturb the plants, and then sink the frame with the soil and plants into a space prepared for it in the soil. Let the upper edge of the frame be even with the surface of the ground. Protect the plants by covering them with leaves. In this manner they will keep well until spring, when they can be transplanted.

Single flowers are the natural condition, and one should never be surprised to see them—it is rather a surprise to see them double. To produce double flowers the seed-grower exerts his highest skill. Seeds produced by double flowers do not necessarily give double flowers.

FRAGRANT CUCUMBER.

The seeds I purchased in the spring were all right in every way. My garden was a success, which rather surprised everybody, it being my first attempt. They laughingly told me I referred to VICK'S GUIDE more than I did the Bible. Can't say if true or not. Only know that both garden and flower seeds turned out splendidly.

I send you by to-day's mail a small box, containing —, well, I don't know what. Will you, please, tell me? I had a few seeds given me while at Rehoboth, Del. They use them for preserving. I only raised a few, and spiced them; they are excellent. All who taste them want the seed. I plant them the same as Cucumbers. They do not run very much. Do you know anything about them?

H. J. W.

The specimen here referred to was *Cucumis odoratissimus*, or Fragrant Cucumber. This plant is usually cultivated as an ornamental Gourd, but no doubt many will be pleased to learn of its culinary value, as described above.

THE FALL FLOWERS.

A great variety of flowers have made the gardens bright up to the fifteenth of October, when the first serious frost spoiled many kinds. The weather here during September and the first half of October has been nearly perfect, and at



CLEMATIS JACKMANI.

no time during the whole season has there been a greater variety of flowers in bloom. Roses and Pansies have been especially fine, and Geraniums, Heliotropes, Verbenas, and many kinds of annuals were blooming profusely. The tender foliage bedding plants were in perfect condition at that date, and showing to the best advantage. The profuse blooming habit of the Jackman Clematis has greatly surprised many persons this season, as it has produced its flowers, with but short intervals, from the first of June until stopped by frost. It is a remarkable plant.

AM. HORTICULTURAL SOCIETY.

This society held its annual meeting in Cleveland, on the 7th of September last, lasting four days. There was a fine attendance of many horticulturists and fruit-growers of all parts of the country, and the time was mostly spent in making addresses, reading papers, and general discussions on appropriate subjects. An exhibition of plants and fruits was made, and premiums awarded for the best. Several of the papers were unusually valuable, and the session was a most profitable one. The address of the President, PARKER EARLE, of Cobden, Illinois, was of special importance, and further notice of it will be made by us in the future.

One of the most interesting papers was read by Mr. KIZO TAMARI, the Commissioner from Japan to the late exposition at New Orleans. The subject was vegetable gardening in Japan, and the essay was as follows:

"When I say a single root of Burdock is sometimes worth twenty-five cents in Japan, you will be surprised at the high price for such a noxious weed and will imagine that there are no vegetables in Japan. When our peo-

ple hear that a quart of Blackberries brings twenty-five cents in this country they will think that you may not have delicious fruits here. There are many culinary vegetables of good quality in Japan, and so you have an abundance of delicious fruits. The existence of different ideas in two countries as to the choice of edible plants depends not only on the taste, but also on the habit of living, methods of cooking, etc. The appetites differ more or less in individuals of the same family, so it is with people of different nations. The climate, social condition, etc., may have much to do with this.

Some vegetables which we are fond of may be regarded as undesirable for your cookery. It may, however, be interesting to enumerate our vegetables which are not much grown, or which are quite new in this country, and to tell some of the different habits of plants in the different countries. We will place them in four or five groups, according to the purpose for which they are grown, so that you will readily understand the use and nature of plants.

"First, those grown for the root. Radishes. There is no vegetable in Japan so extensively used, or which varies so much as Radishes. The roots are not small, nor round, nor red in color. They are mostly cylindrical, fusiform, or club-shaped, from one-fourth of an inch to over a foot in diameter, from six inches to over a yard in length. With so many varieties they can be grown the year round. The spring varieties are small and solid, the autumn varieties are large and tender. Sakurashieta, which grows on the southern island, is the largest one, and sweet, globular in form, growing through winter, and increasing in size in the spring. Our Carrots are smaller, but longer than those in this country, being one inch and a half in diameter at the crown, and nearly two feet and a half long. They are of high color. Burdock comes third in general estimation among our vegetables. The root referred to, grows in some districts a foot in circumference and three feet in length, is soft and delicious. It will take a year to get such roots, but generally they do not exceed one inch and a half in diameter. The plants above mentioned require deep cultivation, and would not suit this country. Among Turnips there is a small, fine variety of white color, used as Radishes in this country. Some are bright scarlet. In shape they are globular or oblong, but not so large as Radishes. Taroes (*Colocassia*) of Arum family, are very extensively grown, and used as Potatoes in this country. *Allocassia*, or *Caladium*, which is grown as an ornamental foliage plant in America, belongs to the same family, and possibly may be the same species. It is very profitable to grow in shady places, as in orchards. It is grown everywhere in the south and north, and no injury has yet been noticed from insects, nor has any

disease appeared to injure it. The annual production may be estimated at six or seven million bushels. They taste like Potatoes, but they are more mealy. The roughness of the skin is one objection to them. A kind of Taro (*Leucocassia gigantea*, Schott) which is also met with in the Southern States is grown for the stalk, which is used as a salad. *Konjak* (*Conopholis conjak*) is grown in shady, moist ground. It is boiled and mashed up and made into gelatinous cakes, in which state it enters our kitchen. Common and Sweet Potatoes need no special notice. The former is grown comparatively little in the north-part, and the latter is extensively grown in the south, where farmers live almost entirely on this tuber, just as do the Irish in Ireland. A variety called Forty Days may be noticed on account of its earliness. Varieties of Japanese Yam (*Dioscorea Japonica*) are used. The roots of wild plants are better in quality. They are grown, and yield roots of about two inches by three or four feet in one year. Digging the root is hard and tedious work, but one variety of it grows near the surface. A variety of Lily (*Lilium tigrinum*) is grown in the corners of fields, where plowshares could not reach, and thus economizing the ground. We get the bulbs two or three inches in diameter in three or four years. Our Onions have not large globular bulbs. They are grown just like Celery in this country, and have long, white, tender stalks.

"Among those grown as seeds and fruits, there are so many Peas and Beans that they cannot be plainly described. Besides common cultivated Peas (*Pisum sativum*) and Beans (*Faba vulgaris*), we have Asparagus Beans with long pods (*Dolichos umbellatum*), many of Kidney Beans (*Phaseolus vulgaris*), Ensiform Beans (*Conovolia incurva*), Soy Beans (*Soya hispida*), etc. Some are used in green pods and the seeds are mostly used for making different kinds of cakes or as parched Beans. The most important crop among our Pulse is Soy Bean. The annual product is about the same as that of Wheat, viz.: Eleven and a half million bushels. This large amount is consumed only in our culinary, in three different forms, viz.: Miso, Shioyn and Tofu. The first and second are made of the Beans,

Wheat or Barley, common salt and water, being the first in the form of a paste and the second in the form of a liquid, commonly called Japanese sauce. The third is a white mass made by coagulating extract juice of the Bean with a solution of Epsom salts. This is called Chinese cheese by the English. The Tofu is very extensively and commonly used, especially among those living apart from the seacoast, and where they cannot get fresh fish, this is cooked and used as a substitute for fish. This Bean is exceedingly rich in nitrogenous substances. It contains about thirty-seven per cent. of albuminoids, or over three times as much as Wheat, Barley or Oats, and one and a half times as much as Peas or Beans contain. So far, our people are the most extensive consumers of Pulse of any people in the world. It seems to me that it is caused by the demand for nitrogenous food, which is lacking by the exclusion almost of animal food, except fish, from our table. Egg Plants are mostly oblong and large. Recently two Chinese varieties were introduced; one is very long, and another very large and round. The former is about one inch by one foot and a half; the latter is over six inches in diameter. They are not popular. Among the Gourd family, our Squashes are small, but solid and very sweet. They are flattened, deeply grooved and of reddish color. A small oblong variety of Golden Muskmelon is common and popular. It is rich in flavor and taste. Cucumbers are grown only for use in early spring, and afterwards varieties of Cucumis common take their place. They are hardy and profitable. The Gourd was formerly one of our novelties for receiving any liquid. Different forms of Gourds are more or less artificially designed. In the southern islands a large variety of *Lagenaria daristernon* is grown, sometimes two feet by three feet of green skin and white powdered. The flesh is soft. In some parts varieties of *Luffa* (*L. petola*) are used when young. Lately a large variety was introduced, being about eight to nine feet. When ripened, the inside net-work is used as a sponge. Balsam Apples (*Momordica charantia*) are grown. They are commonly fusiform, but in the southern part there is a larger variety, white instead of green, and is not so bitter as the green small variety.

" For leaves and flowers, we have no varieties of Cabbages; what is here called Japanese Cabbage is a variety of *Brassica Chinensis*, and is of Chinese origin. Varieties of this species are innumerable, and the leaves are unfolded, except the one above referred to, so it is with our Spinaches. A kind of *Chrysanthemum* (*C. coronarium*), is cultivated for its leaves and stalks. It is tender, and of fine flavor, and used as Spinach. In this country this plant is grown for its flowers, which are largely single and double. The stalk still seems to be tender. The flowers of the common *Chrysanthemum*, generally of yellow color, are used in Japan. Before the flower fades away, the petals are collected and put in an iron pan on the fire and stirred till boiled, and afterward carefully dried in the sun, and kept in an air tight porcelain pot. This keeps in good flavor and color for several years. To use this it should be put in boiling water for a few minutes and then into cold water. Young flowers of *Amomum mioga* and *Petasites Japonica* are used for relishes in season.

" For its young shoots and stalks, *Aralia cordata* is grown as Asparagus; *Cryptotænia Canadensis* is cultivated like Celery, and used to cook. Two kinds of Fern (*Pteris Aquilina* and *Osmunda regalis*) are used. These Ferns, Bamboo shoots and some others are rather wild grown, but some are forced in hot-beds or carefully manured; a Bamboo bush near a large town adds a large amount of income to the owner. Six or seven kinds are commonly known as edible. Among aquatic plants, the most common vegetable is *Lotus* (*Nelumbium nuciferum*) or African Water Lily. The leaves and flowers are very large; they grow in marshy lands or in ponds. The roots are over four feet long, having five or six internodes and seven or eight holes vertically inside. They are mealy and wholesome. A Chinese variety lately introduced is very large, being about three inches in diameter, but the internode is shorter than the original variety. A variety of Arrowhead (*Sagittaria sagittifolia*) is grown in marshy land. The tuber has a good flavor, but is a little bitter in taste. Tuber of Water Chestnut (*Scirpus tuberosus*) is smaller than that of the above. This is used in a raw state. The young shoots of *Brasenia peltata*, which

grows in an old pond, is covered with a transparent gelatinous substance. This is used as a delicacy. Different species of sea weeds (seven species common,) are used. The highly esteemed species is *Porphyra vulgaris*. This is made into shape like thin sheets of paper for the sake of convenience. Culture of this weed and making into the sheet is one of our important industries.

"There is one more group remaining to be spoken of. This comprises those which are used for flavoring or relishes, as Horse Radish, Water Cress, etc. Wasabi (*Entrema wasabi*) is the best representative for fragrant, sweet, acrid taste. It is used just like Horse Radish, but is more noble. The best roots are cultivated only in clear spring water running down the mountain valleys. Young leaves of *Polygonum Japonicum* are used like Water Cress. The leaves and spikes of fragrant Basil (*Perilla arguta*) are used in different ways so as to impart fine fragrance and a deep purple color. A variety of deep purple and curled leaves may be fitted to ornamental forage plants like colors in this country."

SOME QUERIES.

What is the best time to trim or cut back *Abutilons*? Mine are grown very large and straggling, and are covered with scale. I have been compelled to throw out a large plant of the white, the leaves, stems and buds being covered with scale. In sorting over my plants to be kept for winter, I find many suffering from it, especially a fine collection of *Epiphyllums*; several of these are grafted on *Pereskia*, and are large specimen plants. I have spent a great deal of time removing it, and finally used kerosene and milk emulsion, but fear the results, as the *Cactus* looks brown and sickly afterward.

I have fine large plants of *Hibiscus*, two of them double. These had also grown beyond the bounds of my little greenhouse. I kept them in the pots they were grown in, last winter, placing them under the bench, laid on their side. They kept well, but I cut back this spring, and have lost bloom all summer, but now they are full of buds. What is the proper time to cut them?

MRS. J. P. C.

After using the kerosene emulsion on plants they should be syringed with water, then no harm will ensue. This treatment will destroy scale insects. It is necessary to look the plants over afterwards, and brush away all the dead insects, and make the plants quite clean.

The *Hibiscus* plants should be allowed to go through their blooming season, and when they are in a dormant state, before new growth commences, they can be pruned as desired.

KNOT GRASS ON LAWN.

Will some one tell me how to kill out Knot Grass from my lawn? I want to get it into June Grass or Clover. It looks very nice and green the early part of the season, but turns brown and dies down before frosts come. I think it is an annual, and if it did not bear such an endless quantity of fine seed, could be killed out by keeping it cut close.

M. A. P.

Knot Grass, or *Polygonum aviculare*, sometimes also called Goose-grass or Door-weed, is an annual, bearing an abundance of seed. We know of no better way to destroy it than to pull it up or cut it just below the surface of the ground, commencing early in spring and following it up through the season. As some seeds will remain dormant it might be necessary to watch it for two or three years, and remove it as fast as it appears. If any of our readers have had experience in destroying this weed it will benefit others to make it known in our pages.

PLANTS FOR NEBRASKA.

I see in your August number that H. H. W., of Scotia, Nebraska, wants to know what plants will do in that part of his State. I do not believe that the wind blows any more there than here, in Northern Kansas, as it can almost blow one bald-headed without half trying. Let him plant double Balsams, Zinnias, any of the double Pinks, New Japan Cockscombs and the beautiful Phlox; these will all stand hard wind. As to Perennials, first, the Perennial Phlox is the best of all, it will not freeze out here; next Chinese Pinks, *Hibiscus moscheutos*, *Yucca*, *Aquilegia chrysanthia* and Pæonies. These plants all do well in Nebraska and Northern Kansas, as I have tried them.

W. C. M., *Sabetha, Kans.*

POPULAR SCIENCE.

Dr. JOHN S. NEWBERRY, the distinguished Professor of Geology, in Columbia College, opens the November number of *The Popular Science Monthly* with the story of the great ancient ice-sheet which once covered half of our continent, and which, more than any other single cause, gave to it its present surface configuration. With the aid of illustrations the record left by this mighty agency of the past is very clearly interpreted for the general reader, who will obtain from the account an insight into the mode of working of nature's forces that only years of special study could afford.

NOTES.

In my essay on Asparagus, I quoted from the writings of the late J. B. Root, of Illinois. The insertion of a comma and three words may have changed somewhat the meaning of the sentence. As printed, page 261, it reads, "The profits are just in proportion to the amount of manure used, which should be more than most people think enough." It should read, "The profits are just in proportion to the amount of manure used more than most people think enough." His meaning was that the profit came from the manure applied after most people would think there was plenty on the land.

The observations of Dr. HOSKINS upsets all the old beliefs. If the stock affects the fruit of the graft, as he claims, then it is important to know what kind of a stock is used. In case of the Apple, I do not see what can be done, it is impossible to get enough stocks to supply the demand, without using small seedlings which have not borne, and the nature of which cannot be determined. Under these circumstances it is fortunate that root-grafted trees do not show so great an amount of variation as those which are top-grafted. Were it otherwise, we should not know how to preserve our varieties, as very few will grow from cuttings and none reproduce themselves from the seed. Probably this influence of stock upon the graft may account for much of the difference in the same variety of fruit in different localities, perhaps much that has been considered the effect of soil and climate may be accounted for in this way. This matter is of special interest in Florida, where it is very common to set large sour Orange trees into grove form, cut the top off and bud them with sweet Orange. This is practically the same thing as top-grafting; whether the stock affects the bud in this case I cannot say. If so, it may account for some of the diverse opinions of the same variety, expressed by different growers.

Mrs. THOMPSON, page 274, makes a slight error in the common name of Amaryllis *Treatiae*. It was introduced by J. L. CHILDS as "The Fairy Lily," not "Fancy" Lily. I think she was right, in the first place, in thinking that *A. Atamasco* and *A. Treatiae* were the same. In support of this opinion I have letters from Dr.

CHAPMAN and P. J. BERCKMANS. The only difference claimed is that the leaves of the last are narrower than those of the former. The fact that a sub-variety has narrower leaves than the type does not justify its elevation into a separate species. Many such varieties have been noted and recorded in the botanies. For example, a sub-variety of *Gentiana saponaria*, differing from the type in being smaller and having narrower leaves, is given, not as a separate species, but, as a sub-variety, thus, "*G. saponaria* var. *linearis*." Other examples may be found among the *Trilliums*, where an entire change in color is still classed as a sub-variety. The same thing is still more noticeable among the *Vacciniums*, where as many as four sub-varieties of one species are noted, each differing from the others and the type quite as much as *A. Treatiae* does from *A. Atamasco*.

Bagging Grapes will preserve them from the attacks of birds and wasps. It is a necessity here, as mocking birds are very destructive, and wasps are very numerous and busy after the Grapes begin to ripen. Where there is no danger of rot or mildew, the bags need not be put on until just before the Grapes begin to ripen. With me the bags make just the difference between a crop or no crop.

W. C. STEELE.

ENGLISH IVY AT THE NORTH.

I lately received a copy of your neat publication, and was much interested in an article by SUSAN POWER, speaking of English Ivy being hardened to endure our climate. I think her instances were all taken from the State of New York and eastward. I have known of it being hardy in Michigan; at Coldwater, Branch County, I saw it growing on the north side of a brick dwelling with stone foundation. The lady who had it said she had hardened it gradually, giving it protection while young, and her method was this, she took it down from the wall by running a knife between the wall and the tendrils of the Ivy, and laid it on the ground, covering it with leaves for the first two winters, after that with snow, and lately she had let it remain on the wall. She had found it quite easy to harden it on the north side of the house, only removing it two winters. On the east side it died with that treatment, but

by protection until four years old had made it grow on the northeast corner of the house; had found it impossible to make it live on the south and west sides unless it was loosened and thrown down each fall after the ground was frozen hard. She said the winter sun warmed the buds and started them into growth and the next cold snap killed them. I think she told me she had been experimenting for twenty-six years with the Ivy.

I tried to make Ivy hardy and made a partial success on a wooden building with stone foundation. The Ivy grew well as far as the stone went, and died off above where it grew on the wood.

At Canandaigua, New York, twenty-five years ago, I daily used to see the office of a gentleman by the name of GREGG, covered and hidden on the north and east by a most luxuriant mantle of Ivy, and we used to take slips of it from the cracks between the stones of the sidewalk and set them on the north side of our house. We never thought of making a house plant of it, and thought the reason the vines did not flourish was because the buildings were wood instead of stone or brick.

MRS. H. P. P., *Lapeer, Mich.*

AMARYLLISES AT REST.

This is, or at least ought to be, the resting period in the case of Amaryllises, and I would recommend growers of them not to be too hasty in repotting and starting them into growth. While at rest, we give established flowering bulbs no water until February; as the leaves decay they are removed. Thrips are destroyed by tobacco fumigation, and when the plants are in good health they are not much troubled with red spider. We now leave all ventilators open night and day, and will do so until very cold weather sets in. Bright sunshiny days and warm nights have materially aided the ripening of the bulbs, which are this year large in size and very solid. Young plants raised from seed sown as soon as ripe in July should now be grown on freely, as should also young plants from seed sown last year. The youngest plants do not lose any of their leaves, but continue to make growth all winter; consequently they must not be allowed to become so dry at the roots as old plants. Seedling plants are pricked out when ten days old, a

dozen of them being put into a five-inch pot. They will grow on freely if the pots are plunged in a gentle bottom heat and a hothouse temperature is kept up. In November and December they require but little water, and about the middle of January they should be shaken out of their pots, replacing them in others of the same size, but this time putting only three plants in a pot. Thus arranged, they will grow for another season without removal. Next year they should be repotted in January, one bulb being placed in a five-inch pot. Established plants, both of named varieties and seedlings, ought all to be repotted between the middle and the end of January. As to compost, some difference of opinion exists. One grower with whom I was acquainted used heavy loam, to which was added a little manure. He had a notion that they succeeded best in it. They certainly grew and flowered well in it, but by the end of the season the roots used to be dead. I use two parts good turf loam, one part peat, a fair proportion of sand, and one barrowload of manure to six of the loam and peat. Some, I know, say, "Why give minute instructions as to mixing up soils? These are mere trifles; one compost is as good as another," &c. The character of a compost is certainly not so important as old cultivators led people to believe, and therefore I do not think it necessary to mix its component parts up with precision; but we must not forget that perfection is generally attained by paying attention to minute details. We grow our flowering bulbs in pots from four and a half inches in diameter to eight and a half inches, only a few of the larger sizes being used for very large bulbs. When repotted, the whole collection should be plunged in a tan bed, but it should not get any water until it is seen that the plants have started into growth. Giving water to the roots before they are in a state to avail themselves of it would cause some of the bulbs to rot. Nor is a high temperature at first desirable, as this causes them to rush into flower before the leaves appear, a circumstance which is not desirable. Even under the best of management many of the bulbs will produce flowers before the leaves are developed, but without foliage Amaryllises are not nearly so effective as with it.

Amaryllis bulbs do best in bottom heat during the growing season, but very good results can be obtained without it. I have flowered them well in a viney, and the bulbs have matured their growth both under the shade of vines and Peach trees. The bloom is prolonged if the plants are removed when in flower to a greenhouse.

J. DOUGLAS, in *The Garden.*

DOUBLE DWARF SUNFLOWER.

A new style of Sunflower, as yet but little known to the public, is that of *Helianthus multiflorus plenus*. It is a hardy perennial plant, and in this locality stands out during winter without protection. In



DOUBLE DWARF SUNFLOWER.

regions more severe it can be wintered by covering with leaves or stable litter. Each year the plant grows into a handsome, compact, pyramidal bush, about four feet high, and almost literally covers itself with golden yellow flowers, about the size of Dahlias. In this condition at first sight it may be easily mistaken for a plant of yellow Dahlia. It is very desirable for the border of perennials, or on the margin of a shrubbery.

As a cut flower it is variously applicable, and will be found quite serviceable.

AQUILEGIA AND DIGITALIS.

In compliance with your request accompanying the minute instructions so kindly given by you, last spring, in regard to starting Aquilegia and Digitalis plants, I thankfully report results to the MAGAZINE.

The seeds were sown about the middle of March, in pots of light soil, principally leaf-mold, made moderately moist, covered with a pane of glass and set in a light room, but not where the sun could shine on them. The Digitalis plants made their appearance in less than a week; the Aquilegias were slow, but were up pretty well in three weeks. When they were high enough to touch the glass, that was removed, and in a few days we transplanted the Digitalis into a shallow box, setting the plants about two inches apart. They grew nicely. We gave them water about once in two days, and soon set them in the sun. One unlucky morning they were watered with water in which was a little milk, and in two days only two or three around the edge of the box were left; the rest having wilted down as though scalded.

The Aquilegias we left in the pots, and intended to transplant them into open beds as soon as large enough, but our terrible drouth came on and we dared not put them out till we had rain. We have been waiting for four months now, and the coveted rain does not come yet. The plants, though badly crowded in the pots, are good strong plants, and we yet hope to get them in the ground this fall. A few of the Digitalis plants that we did not transplant are good strong plants.

I thank you much for your very definite directions about planting and caring for these seeds, and wish some others may profit as much by them as I have.

MRS. V. N. L., Ottawa, Kansas.

ROSES—VINES—RASPBERRIES.

Protect Roses by covering them with leaves and evergreen boughs. Prune Grape vines and, in cold climates, lay down the tender varieties on the ground; a stone laid at the end of each shoot will hold the vines in place. Tender varieties of Raspberries can have the canes bent down and fastened by a spadeful of soil.

GARDEN NOTES.

I enclose a few data regarding my small garden. We have had from it all the flowers and vegetables we could use and have given away an abundance of both. Our yard, back of our house, is ninety-five feet long by fifty feet wide. Forty feet of this is lawn, then a flower bed ten feet wide, and then a strip forty-five feet wide for vegetables and a Strawberry bed. Around this small garden, on three sides, is a high board fence. Next to this fence we sowed Morning Glory and Nasturtium seed, and at one time, before the plants were disturbed the fence was nearly hidden from view. We can pick a bushel basket full of beautiful Nasturtiums any time. Another year we expect to have more flowers and an abundance of Strawberries. We set out six hundred and fifty plants in September, 1885. This last summer they gave us over a bushel of berries, and we predict ten times as many another year, as we keep the runners cut and weeds out. The plants are set too close, but scantiness of space caused us to try and get all the ground would stand.

VEGETABLES.

Seeds or Plants.	Planted.	Came up.	Blossomed	Used.
Vick's Early Peas,	March 30.	April 14,	May 14,	June 11.
Crossman's Early Kent,	March 30,	April 20,	May 18,	June 14.
Lettuce,	March 25,	April 12,		May 14.
Onions,	March 25,	April 20,		June 22.
Boston Market,	April 17,	May 10,	June 22,	July 14.
Salsify,	April 16,	April 26,		September 19
Dwarf Wax Beans,	April 24,	May 5,	June 14,	July 2.
Marblehead Corn,	April 24,	May 7,	Tasseled June 17,	July 24.
Scarlet Top Radish,	April 19,	May 24		May 3.
Early White Spine Cucumber,	May 6,	May 18	July 6.	
Stowell's Evergreen Corn,	May 6,	May 18,	June 19.	September 15.
Early Blood Turnip Beet,	April 19,	April 28,		July 1.
Champion of England Peas,	April 24,	May 2,	June 12,	July 5.
Parsley,	April 19,	May 26,		
Pumpkin seed,	April 13,	May 24,	July 13,	September 15.
White Plume Celery,	July 11,			September 12.
Pie Plant,	September, 1885,			May 14.
Horse Radish,	April 13, roots put in,			September 12.
Strawberries,	September, 1885, 650 plants,			May 28.

FLOWERS.

Seeds and Plants.	Planted.	Came up.	Blossomed.	Done blooming
Poppy seed,	April 17,	May 7,	July 2,	August 4.
Sweet Peas,	April 16,	April 24,	July 8.	
Perennial Peas,	April 13,	May 13,	July 14,	did not come well.
Tropæolum minus and major,	April 28,	May 12,	June 17.	
Mignonette,	April 28,	May 12,	June 18.	
Centaurea,	April 19,	May 7,	July 2.	
Phlox Drummondii,	April 28,	May 12,	July 2.	
Eschscholtzia,	April 19,	May 1,	June 16.	
Sweet Alyssum,	April 18,		June 18.	
Marigold,	April 22,	May 11,	July 4.	
Gypsophila,	April 19,	May 13,	some fly ate the buds off, no blossoms.	
Pansies,	March 7, in house; set out May 7,		June 15.	
May 22, set out many kinds of house plants.				

C. L. G., *Oliver, N. Y.*

CLEMATIS LA FRANCE.

This is the name of a new variety of Clematis that is the produce of a cross between *C. lanuginosa* and *C. Jackmani*, and which has been described in a late number of the *Revue Horticole*. It was originated by M. GÉGN, horticulturist, of Angers, France. The journal above mentioned says that, it is truly a plant of unusual merits, and which once more puts beyond doubt the influence of artificial pollinating, and shows what can be

done in this manner. In effect, *Clematis La France*, hybrid of *C. lanuginosa* and *C. Jackmani*, possesses the general characters of both of these plants. It has the habit of growth of *C. lanuginosa*, that is to say, that it blooms continually, like the last, and that it has its vitality and its general appearance; as for the flowers, by their dimensions, their form, their nature, they recall those of *C. lanuginosa*, are more abundant and have taken the beautiful deep violet color of *C. Jackmani*.

LICE ON HONEYSUCKLES.

I notice what you say about Honeysuckles. I have a vine which has been cultivated several years. It blooms only occasionally. This year I discovered the flower buds or ends of young branches completely invested with great quantities of green lice or flies, and they were so concealed and covered that I was not able to dislodge them, only by cutting off the stem. Can you give any remedy for their destruction, in your next issue?

I wonder if your many flower lovers are aware of the very valuable flowers of the fall Anemones. I consider it one of the best.

F. C. D.

The green lice on Honeysuckles can be destroyed by syringing the plants with soap-suds in which there is a little addition of tobacco water. After using this liquid wash the plants well by syringing with clean water. If the lice should reappear repeat the operation, and afterwards be on the lookout for them and destroy them in the same manner whenever necessary. After a short time they will easily be kept in subjection.

OFFSHOOTS.

A writer in a late number of the *Rural New-Yorker*, in some "Rural Notes," from the meeting of the American Horticultural Society, refers to GEORGE W. CAMPBELL, of Delaware, Ohio, as the originator of the Delaware Grape. Although Mr. CAMPBELL gracefully carries many honors, we are sorry to say that the honor of originating the Delaware Grape is not one of them. The origin of this variety is unknown. As DOWNING says, in *Fruits and Fruit Trees of America*, "It was found many years since in the garden of PAUL H. PROVOST, Frenchtown, Hunterdon County, New Jersey." All efforts to trace its history further have been unavailing.

Seedlings of the Polyantha Rose have been proved in French practice to be superior to all other stocks on which to bud other varieties. The seeds germinate

promptly in fifteen to thirty days, can be pricked out into the open ground in the spring, and will make a growth that enables them to be budded in August and September. The roots are numerous and fibrous. In a batch of Polyanthus seedlings, as in all seedlings, some will be of delicate growth, and these should be rejected as stocks, but they need not be lost, as they will, in most cases, prove to be valuable as flowering varieties.

It appears probable that the days of patent fruit jars are ended, since the testimony is so satisfactory in favor of tying cotton batting over the mouth of the jar containing the fruit. The fruit is cooked, or rather, brought to the boiling point, and then poured hot into the jars, which are at once covered with white paper, and over that a layer of cotton batting, just as it comes off the roll, and tied down securely with cotton twine. The philosophy of it is that the cotton prevents the entrance of bacteria, which are the cause of all ferments.

SUWANEE LILY.

Mr. H. NEHRLING writes to the *Gardeners' Monthly*, that when he was traveling in Florida, last spring, he learned that the people of the Suwanee region called Zephyranthes Atamasco, or Atamasco Lily, the Suwanee Lily, and that he saw two forms of it growing on the banks of the Suwanee river—a white and a rose-colored one. The question now is, which one of these forms is that of the species, as described by GRAY, CHAPMAN and WOOD? The white one is a pure white, but all of the above authorities describe it as "pink-white," or "white and pink." The colored plate in our July number corresponds to the authoritative description of the species.



OUR YOUNG PEOPLE.

A THANKSGIVING TALK.

It was Thanksgiving morning that had dawned over Mrs. Lansing's household. The turkey lay rotund on the kitchen table. A brace of chickens in the same plethoric condition were near by, and a roly-poly shoat, almost as white as the milk of which he was made, kept them company, while all awaited the fiery ordeal of the roaring brick oven when its heat should have culminated to the proper degree. For it was not Mrs. Lansing who would so far yield to modern innovation as to fancy the brick oven no longer a necessity on festal occasions. And to her niece, Cassie Hobart, who was there for a month's visit, she now fondly commented upon the immunity from care which her final deposit into its cavernous depths always afforded her.

That young lady had followed her aunt around all the morning with the greatest interest, and now assisted, with agile fingers, in the many last things to be done, most thoroughly enjoying it all. Finally, even the flowers had been tastefully arranged, the large baskets and dishes heaped with fruits, both native and tropical, ready for the dessert, and nothing remained to be done until such time as the trains with their guests should arrive, and the brick oven should have yielded up its contents.

Then each went to her room, and in a half hour after met below stairs, where Cassie found her aunt talking to a stranger, apparently a vender of some bottled mixture. During her different visits with this aunt she had curiously observed her treatment of that itinerant class comprising agents, peddlers, and tramps, and now listened with unusual interest as she heard her say :

" My grates are not needing your enamel preparation, but if its application prove as magical and lasting as you represent, you can soon create a demand for it. But, excuse me for remarking that you look at this moment weary and haggard, and appear like a man who has seen better days, and if you are needing

a cup of strong coffee and a luncheon, please be seated while I prepare them."

The man looked at her with astonishment for an instant, and then said, as he slowly settled into a chair :

" I am needing just that to help me on, but will pay you for it."

Soon after, he was shown to a side-table in the kitchen, where Mrs. Lansing brought him freshly made strong coffee, saying :

" As this is a medicinal remedy, in this instance you will take it clear. Drink this cup at once. Then, with your second cup, you can eat enough of these sandwiches to fortify you until three o'clock, when, if you are in the neighborhood, call, and you'll find a steaming hot plate of our Thanksgiving dinner awaiting you. But you'll promise me to take nothing — nothing whatever, until that time?"

And she looked at him. He leaned back in his chair in a helpless sort of a way, bowing his head two or three times without looking up. Then, leaving him to drink his coffee, she shortly returned to replenish his cup, and took a seat near by, as she resumed :

" You, doubtless, arose this morning with headache and a wretched feeling of lassitude, and your usual remedy so dulled the edge of appetite that but little breakfast was eaten. Consequently, before you reached here, a sense of emptiness and craving had induced you to repeat your remedy. This course, if continued must cost you your life. I would like to help you into a better way."

She paused, and Cassie, who had made an excuse to be within hearing, saw the mute man give her aunt a look which told that he knew she understood him. When he had finished eating and was about to leave, Mrs. Lansing repeated her request for him to call at three, and he bowed assent and departed, while she promised herself to make use of the coming interview for his further good.

Then Cassie took possession of her

aunt, and wanted to know how she had dared to speak so plainly to that man, and how she came to know so much of his habits, and, in short, why she treated all the strollers that called, with so much consideration, not knowing but they would return and burglarize her house after having learned its interior.

"A volley of questions," said Mrs. Lansing. "Sit down here, and I'll answer them. In the first place, I smelled whiskey on that man's breath as soon as he spoke, and I guessed at the rest by his general appearance. I treat peddlers and agents with consideration because, in this age of tramps and vagrancy, they are trying to make an honest living, and from that standpoint I do not dare discourage them. But there is another reason for humane treatment, which applies to the lowest. They are human beings with immortal souls. Only last Sunday our minister quoted from some source, 'Let all be above thy contempt for whom Christ died.' We may feel contempt for the *actions* of a person, but if the actor be treated contemptuously by every one, there is little chance for his reformation or repentance, even though the shadow of a gallows fall across the victim's floor. There must be one, at least, to go to him with kindly words and real interest, and open the door between his darkened soul and the light of repentance. Don't you see, dear?"

"Yes, I see how you look at it, but, auntie, those horrid looking tramps—real vagabonds, too lazy to work and too shiftless to care for respectability—what can you do for such?"

"Not much, indeed," sighed Mrs. Lansing, "and the instincts of such are so low and debased that I should avoid encountering one alone, if possible; but if surprised into an encounter I should certainly have something to say that might divert his thoughts into a new channel for a few moments, at least."

"What? for instance."

"Well, I said to one, 'What a hard life you must lead, with no fixed place for food and shelter. How badly your mother would feel to know of it; is she living?' He looked dazed and did not answer. I hurried to get the luncheon he had wanted, and returning, found him standing with head bowed upon his arm, which was thrown across a pillar of the

porch. I said, cheerfully, 'Take this, and here is my post office address; when you get settled down to some kind of work, and are having an easier life, write and tell me so, I shall be glad to know of it.'"

"Did he write?" queried Cassie.

"No, but another one did, and thanked me for hopeful words; said he had resolved, after leaving me, 'to go to work and live a decent life.' That letter made me happy."

"I can't imagine," said Cassie, "how you came to be so different from most women in such matters."

"I'll tell you," said her aunt. "It was a fearful experience I had when about your age, that set me to thinking about my responsibilities, and gave me the courage to never evade them. Only my mother, and later, your uncle, ever heard me refer to it." Then, looking at her watch, Mrs. Lansing added, "There is still time before the trains are due, and so I'll tell you about it now, since you are so curious about my method of treating the migratory classes, but never repeat it, please."

"Near my father's village home lived a quiet, middle aged man, much respected in the community, who suddenly became addicted to the excessive use of ardent spirits. As often as once a week he was found incompetent to do business. His acquaintances spoke of it with surprise and real regret, and by many it was attributed to domestic trouble. I heard the various remarks, and often asked if any of his friends had talked with him about it, and could but notice that nothing else would so soon silence conversation.

"Finally, one day, after meeting the man and bowing to him on the street, I resolved, as I passed on, that I would talk to him myself the next time I met him. I thought it over so much that it grew to be a fixed purpose. But the next time I met him I began to quail as soon as I saw him approaching, and my courage all oozed away. But I felt miserable over it, and told myself over and over what a little thing it was to do, and that it could possibly do no harm if it did no good. I lay awake at night and thought it over, and could imagine how I should just grasp his two hands, and exclaim, 'O, Mr. D——, do you realize how many warm friends you have, who are interested in your welfare—in

your business and success every way? There's a host of them. Please don't let any sort of discouragement disappoint them in you.'

"Yes, I could, certainly, I thought, say something like that, and promised myself to do it the very next time I met him alone. It happened that the very next time was the day before Thanksgiving. As he came toward me, I saw at a glance that no one else was near. It was a royal opportunity. But instantly I felt the tremors coming. What would he think of a young girl making so bold as to say what I had in mind? My heart began to beat tumultuously, and again my resolution vanished, and I rushed past him without even the usual recognition. I went home utterly wretched, calling myself 'coward,' and feeling keenly that nothing but the actual performance of what I had resolved to do could reinstate my self-respect.

"The next day, when our Thanksgiving guests were assembled—all but our honored physician and wife, the latter was announced, saying that she had waited until the last moment, expecting her absent husband's return to accompany her. Shortly after the diners were seated, he was ushered into the room, his pale face and subdued greetings showing that something unusual had occurred. "What is it?" asked his anxious wife, when he was seated. He answered, 'Mr. D—, while intoxicated, fell over the

river cliffs and was killed. For two hours I have tried in vain to restore animation.'

"You can imagine the sensation among the guests when this was repeated, but you can hardly imagine the distress of that young girl as she continually said to herself, '*If I had done my duty yesterday, this surely would not have happened today!*' And she felt almost like a criminal.

"But that was a lesson to me, Cassie. Never since, to this day, have I felt faint-hearted when a fitting time has favored the saying of helpful words. It is a small thing to do, my dear girl, and we never know but some real good may be the result.

"But there's the whistle of a distant train. I must visit Gretchen now, and see if she is jubilant, as usual, over her supervision of the vegetables. And, Cassie, dear, your cousin Phil, who will not be here until the last moment, left word that your proposal to assist Gretchen in serving the dinner is to be rejected, as he himself wishes to prove to you how efficient he can be in that capacity."

Cassie could but notice when, at last, all at that dinner had once been served, that Phil was sent, with a heaped up plate to be kept hot in the kitchen, that young man saying to himself meanwhile, "Mother always has somebody on her mind. I wonder who it is this time, bless her heart."

MARIA BARRETT BUTLER.

A COAT OF MAIL.

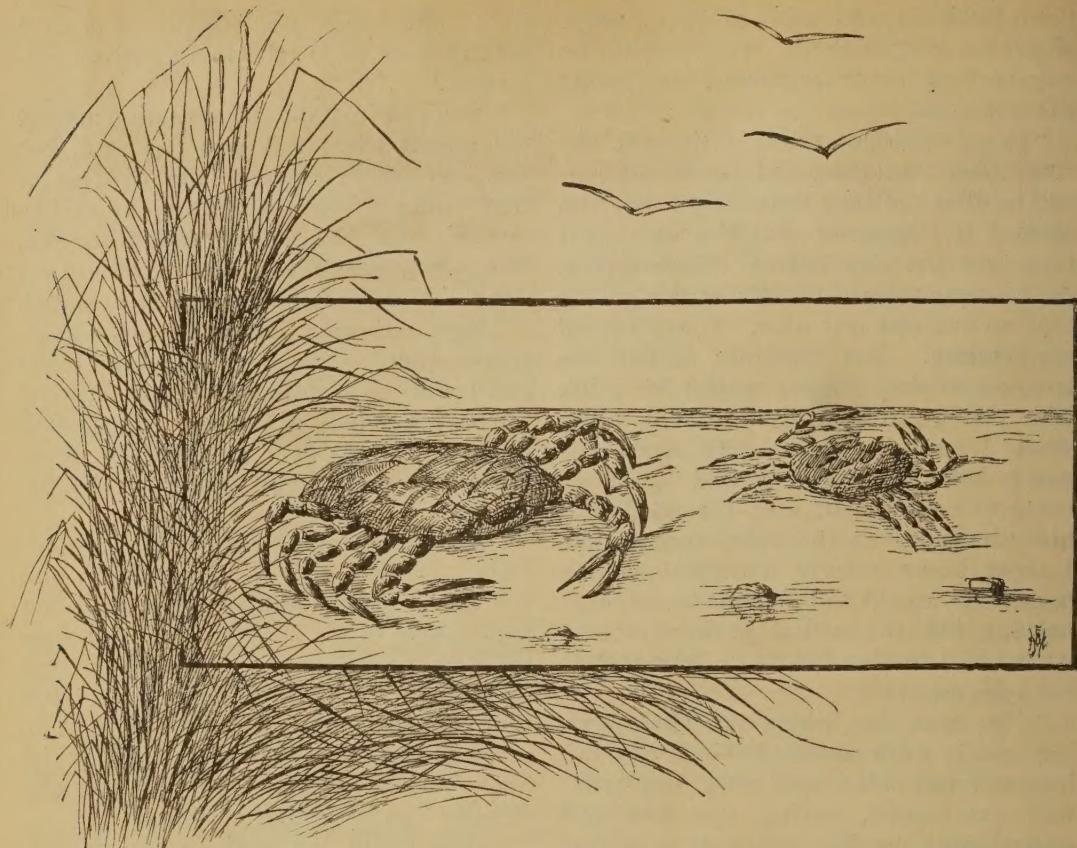
A coat of mail always suggests the thought of war, and a warrior clad in steel armor, prepared for deadly combat, but this coat of mail is far different from the steel one. It is a curious thing, and most thoroughly does it protect its wearer, who is no other than the crab.

Crabs are to be found in many parts of the world, for there are salt and fresh water crabs, and, stranger still, there are land crabs. These last, however, live in wet, marshy places, always near the water.

The coat of mail is the shell, or carapace, as it is called, with which the whole body is clothed, and even the claws, both large and small, are cased in this same shell, which is jointed and hinged together so that the legs or claws can be

moved at the will of the little creature. Since crabs grow, as all living creatures do, their shells become too cramped a space for them, and there then comes a molting time when the shell is cast. It is broken in such a way that the crab draws itself from it and leaves the coat of mail vacant, while nature kindly gives a new and larger armor of shell, which covers it again. This process is repeated many times while the crab is growing, but when it has attained its full growth the last shell stays with it through the remainder of its life.

Crabs can walk and run as well as swim, and a very funny sight it is to see a crab trundling itself with each claw in motion over a sandy beach, when, if it is frightened by the approach of any one, it



A COAT OF MAIL.

will begin digging rapidly with its claws, throwing the wet sand over itself, and in a few minutes not a trace of the crab can be seen, nor even a mark of the place where it has buried itself, for the sand sinks smoothly in place again, and one might almost imagine there had never been any crab in sight.

On the British shores there is a mussel within whose shell lives also a tiny crab, the Pea crab, so named from its small size. They are found also in other bi-valves than the mussel, for often within the shells

of the oyster may be seen a very small crab. There is another kind which, on account of the length of its legs, is called the Spider-legged crab; still another which lives on the islands of the Indian Ocean. It is of large size, measuring nearly two feet. Its home is on the land, where it lives in holes, or beneath the roots of trees, but always near the water, which it often visits. There are many other kinds of crabs, each one so curious in its ways as to be an object of interest.

M. E. WHITTEMORE.

EDITOR'S MISCELLANY.

LITERARY NOTES.

The Report of the Department of Agriculture has been received, and is found to be extremely interesting, and we note especially the valuable reports of the botanist and the entomologist, both accompanied by excellent lithographic plates of plants and insects. The report of the chemist, and that of the Chief of the Bureau of Animal Industry are both very full and instructive. The Department of Agriculture, with its corps of scientific investigators, is a valuable aid in the development of the agricultural interests of this country, and we can only hope that it may soon be relieved of its one disgraceful feature—that of its free seed distribution—which is efficacious only as political bribery.

In the last quarterly of *Drugs and Medicines of North America*, the botanical, chemical and medi-

cial characteristics of the Tulip Tree, *Liriodendron Tulipifera*, and the native Magnolias are critically examined. The text is illustrated with correct original drawings. We can say of this number, as of all the preceding ones, it should find its way to every physician, medical student and pharmacist. To the botanist it also possesses a special value. Published by J. N. & C. G. Lloyd, Cincinnati, Ohio.

Flower Talks at Elmridge, and *Among the Trees at Elmridge*, are two volumes written by Ella Rodman Church, and lately published by the Presbyterian Board of Publication, at Philadelphia, Pa. These volumes are designed to interest young readers in flowers, plants and trees, and to develop their capacities for the observation of natural objects. Such books indicate an improvement in quality of Sunday School literature, of which the need is great.